

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A planar antenna structure for a radio device having at least one operating band and comprising:

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a ground plane[,];
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a radiating element[,];

a feed element having an antenna feed point[,]; and

a feed circuit that couples the antenna feed point to ~~and~~ an antenna port of the
radio device;[,]

wherein the radiating element is galvanically isolated from other conductive parts of the radio device, ~~there is~~ wherein the feed element is only an electromagnetic coupling between electromagnetically coupled to the radiating element ~~and feed element~~ to transfer transmitting energy to field of the radiating element and receiving energy to field of the feed element, and the feed circuit is reactive and ~~it connects an~~ couples the antenna feed point ~~in the feed element to the antenna port and to the~~ ground plane in order to set said at least one operating band to a desired range on the frequency axis and to match the antenna.

2. (Currently Amended) A planar antenna structure according to claim 1, comprising a feed circuit board between the feed element and the ground plane.

3. (Currently Amended) A planar antenna structure according to claim 2, wherein, to provide two separate operating bands, ~~there is in~~ the feed circuit board further comprises a feed conductor which galvanically connects said feed point to the antenna port, and a ground conductor which electromagnetically connects the feed conductor to the ground plane at an intermediate point in the feed conductor.

4. (Currently Amended) A planar antenna structure according to claim 3, the feed conductor and the ground conductor ~~being~~ are meandering strip conductors, which have certain inductances.

5. (Original) A planar antenna structure according to claim 1, wherein the radiating element, when installed, follows the contours of the outer surface of the radio device as regards its shape and position.

6. (Currently Amended) A planar antenna structure according to claim 5, wherein the radiating element ~~being~~ is a rigid conductive piece belonging to a cover of the radio device.

7. (Currently Amended) A planar antenna structure according to claim 6, wherein said conductive piece ~~being~~ is an extrusion piece.

8. (Currently Amended) A planar antenna structure according to claim 1, further comprising a dielectric layer above the ground plane, ~~with~~ the dielectric layer including a

radiating element on one surface of said dielectric layer and a feed element on the opposing surface thereof.

9. (Original) A planar antenna structure according to claim 8, wherein a plate formed by said dielectric layer, radiating element and feed element is arranged to be attached to an inner surface of a non-conductive cover of the radio device.

10. (Currently Amended) A planar antenna structure according to claim 5, wherein the radiating element ~~being~~ is a conductive layer on an outer surface of the cover of the radio device, and the feed element ~~being~~ is a conductive layer on an inner surface of the cover of the radio device.

11. (Currently Amended) A planar antenna structure according to claim 5, wherein at least one of the radiating element and the feed element ~~being~~ is located inside the cover of the radio device.

12. (Original) A planar antenna structure according to claim 1, further comprising at least one radiating parasitic element.

13. (Currently Amended) A radio device comprising:

a planar antenna structure, which has at least one operating band and comprises:

a ground plane[.];

a radiating element[.];

a feed element having an antenna feed point[,]; and

a feed circuit that couples the antenna feed point to and an antenna port of the radio device;[,]

wherein the radiating element is galvanically isolated from the other conductive parts of the radio device, ~~there is~~ wherein the feed element is only an electromagnetic coupling between electromagnetically coupled to the radiating element ~~and feed element to~~ transfer transmitting energy to the field of the radiating element and receiving energy to the field of the feed element, and the feed circuit is reactive and ~~it connects an~~ couples the antenna feed point ~~in the feed element to the antenna port and to the~~ ground plane in order to set said at least one operating band to a desired range on the frequency axis and to match the antenna.

14. (New) A planar antenna structure for a radio device having at least one operating band comprising:

a ground plane;

a radiating element;

a feed element;

a feed circuit;

an antenna port of the radio device; and

a feed circuit board between the feed element and the ground plane;

wherein the radiating element is galvanically isolated from other conductive parts of the radio device, wherein the feed element is electromagnetically coupled to the radiating element to transfer transmitting energy to field of the radiating element and receiving energy to field of the feed element, and the feed circuit is reactive and connects an antenna feed point in

the feed element to the antenna port and ground plane in order to set said at least one operating band to a desired range on the frequency axis and to match the antenna.